



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION I

5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MASSACHUSETTS 02109-3912

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

**OCT 13 2011**

Barbour Realty, LLC  
Attn: Mr. Richard Hynes  
1001 North Montello Street  
Brockton, Massachusetts 02301

Re: PCB Cleanup and Disposal Approval under §§ 761.61(a) and (c)  
Brockton, Massachusetts  
MassDEP RTN: 4-22831

Dear Mr. Hynes:

This is in response to the Barbour Realty, LLC (Barbour) Notification<sup>1</sup> to address PCB-contaminated soils on its property located at 1001 North Montello Street in Brockton, Massachusetts. Soils on the property are contaminated with PCBs at concentrations which exceed the allowable PCB levels for unrestricted use under the federal PCB regulations at 40 CFR § 761.61(a).

Barbour has leased a portion of its property for construction of a cellular tower and associated utilities. The leased area (hereinafter "the Site") is identified on Figure 6 of the *September 30, 2011 Revised Self Implementing Cleanup Plan*. Given the proposed use of the Site, Barbour has requested an approval to clean up and dispose of the PCB-contaminated soils located within the Site under the PCB self-implementing cleanup and disposal option (SIP) at 40 CFR § 761.61(a). Additional assessment of the non-leased portions of the property will be conducted following completion of the PCB cleanup proposed under the Notification.

Barbour is proposing the following PCB cleanup and disposal activities under § 761.61(a):

- Remove all PCB-contaminated soils at greater than (>) 1 part per million (ppm);
- Conduct verification sampling to confirm that the (≤ 1 ppm PCB cleanup standard has been met;

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<sup>1</sup> Information was submitted on behalf of Barbour by Green Environmental, Inc. The information was provided to satisfy the notification requirement under 40 CFR § 761.61(a)(3) and (c). Information was provided dated March 2011(SIP); July 2011 (Revised SIP); September 8, 2011 (e-mail Table and Figure revisions); September 2011(Revised SIP); September 30, 2011 (Revised SIP); October 6, 2011 (e-mail revised SIP pages 8 and 9); and, October 6, 2011 (e-mail clarification on soil stockpile and debris disposal). These submittals will be referred to as the "Notification."

- Dispose of soils with PCB concentrations  $> 1$  ppm but less than ( $<$ ) 50 ppm at a state permitted disposal facility in accordance with § 761.61(a)(5)(i)(B)(2)(ii); and,
- Dispose of soils with PCB concentrations greater than or equal to ( $\geq$ ) 50 ppm, including currently stockpiled soil and debris excavated from the  $\geq 50$  ppm PCB-contaminated areas, at a RCRA hazardous waste landfill in accordance with § 761.61(a)(5)(i)(B)(2)(iii).

With the exception of the sampling requirements, Barbour's Notification meets the requirements at § 761.61(a)(3). Following removal of the PCB-contaminated soils, Barbour has proposed an alternative sampling plan to confirm that the PCB cleanup standard has been achieved for soil. Barbour is proposing to use the results of its characterization sampling supplemented with additional sampling for confirmatory sampling. Given the proposed excavation plan, the sampling that will be conducted following excavation of the  $\geq 50$  ppm PCB-contaminated soils and of the  $> 1$  ppm PCB-contaminated soils, and the fact the sum of the sampling will result in compliance with the Subpart O sampling requirements under § 761.61(a)(6), the proposed alternative sampling is reasonable for soil disposal purposes and is reasonable to insure that the PCB cleanup standard for soil is met. EPA finds that the alternative sampling will pose no unreasonable risk to public health or the environment and EPA may approve this alternative sampling under § 761.61(c).

Barbour may proceed with its PCB cleanup and disposal under 40 CFR §§ 761.61(a) and (c); its Notification; and this Approval, subject to the conditions of Attachment 1.

This Approval only addresses cleanup and disposal of the *PCB remediation waste* identified in the Notification. In the event that Barbour identifies other PCB-contaminated wastes subject to cleanup and disposal under the PCB regulations during future site assessment work, Barbour will be required to notify EPA and to clean up the PCB-contaminated wastes in accordance with 40 CFR Part 761 (see Approval Condition 1.)

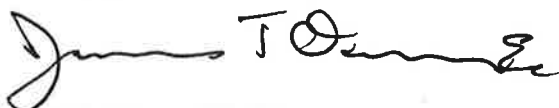
This Approval does not release Barbour from any applicable requirements of federal, state or local law, including the requirements related to cleanup and disposal of PCB-contaminated wastes under the Massachusetts Department of Environmental Protection (MassDEP) regulations.

Questions and correspondence regarding this Approval should be directed to:

Kimberly N. Tisa, PCB Coordinator  
United States Environmental Protection Agency  
5 Post Office Square, Suite 100  
Mail Code: OSRR07-2  
Boston, Massachusetts 02109-3912  
Telephone: (617) 918-1527  
Facsimile: (617) 918-0527

EPA shall not consider this project complete until it has received all submittals required under this Approval. Please be aware that upon EPA receipt and review of the submittals, EPA may request any additional information necessary to establish that the work has been completed in accordance with 40 CFR Part 761, the Notification, and this Approval.

Sincerely,

A handwritten signature in black ink, appearing to read "James T. Owens III". The signature is fluid and cursive, with a large initial "J" and a stylized "O".

James T. Owens III, Director  
Office of Site Remediation & Restoration

Attachment 1- PCB Approval Conditions

Attachment 2- Region 1 *Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs)-Revision 4 dated May 5, 2011*

cc: ✓ W. Betters, Green Environmental  
MassDEP RTN 4-22831  
File

**ATTACHMENT 1:**

**PCB CLEANUP AND DISPOSAL APPROVAL CONDITIONS  
BARBOUR REALTY, LLC  
1001 NORTH MONTELLO STREET  
BROCKTON, MASSACHUSETTS**

**GENERAL CONDITIONS**

1. This Approval is granted under the authority of Section 6(e) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605(e), and the PCB regulations at 40 CFR Part 761, and applies solely to *PCB remediation waste* located at the Site as identified in the Notification<sup>2</sup>. Specifically, the Approval applies to cleanup of PCB-contaminated soils associated with the leased area of the property as identified on Figure 6 of the *September 30, 2011 Revised Self Implementing Cleanup Plan*.
  - a. In the event that Barbour Realty, LLC (Barbour) identifies other PCB-contaminated wastes subject to cleanup and disposal under the PCB regulations, Barbour will be required to notify EPA and clean up the PCB-contaminated wastes in accordance with 40 CFR Part 761.
  - b. Barbour may submit a separate plan to address the PCB contamination or may modify the Notification to incorporate cleanup of the PCBs under this Approval in accordance with Condition 13.
2. Barbour shall conduct on-site activities in accordance with the conditions of this Approval and with the Notification.
3. In the event that the cleanup plan described in the Notification differs from the conditions specified in this Approval, the conditions of this Approval shall govern.
4. The terms and abbreviations used herein shall have the meanings as defined in 40 CFR § 761.3 unless otherwise defined within this Approval.
5. Barbour must comply with all applicable federal, state and local regulations in the storage, handling, and disposal of all PCB wastes, including PCBs, PCB Items and decontamination wastes generated under this Approval. In the event of a new spill during response actions, Barbour shall contact EPA within 24 hours for direction on sampling and cleanup requirements.

<sup>2</sup> Information was submitted on behalf of Barbour by Green Environmental, Inc. The information was provided to satisfy the notification requirement under 40 CFR § 761.61(a)(3) and (c). Information was provided dated March 2011(SIP); July 2011 (Revised SIP); September 8, 2011 (e-mail Table and Figure revisions); September 2011(Revised SIP); September 30, 2011 (Revised SIP); October 6, 2011 (e-mail revised SIP pages 8 and 9); and, October 6, 2011 (e-mail clarification on soil stockpile and debris disposal). These submittals will be referred to as the "Notification."

6. Barbour is responsible for the actions of all officers, employees, agents, contractors, subcontractors, and others who are involved in activities conducted under this Approval. If at any time Barbour has or receives information indicating that Barbour or any other person has failed, or may have failed, to comply with any provision of this Approval, it must report the information to EPA in writing within 24 hours of having or receiving the information.
7. This Approval does not constitute a determination by EPA that the transporters or disposal facilities selected by Barbour are authorized to conduct the activities set forth in the Notification. Barbour is responsible for ensuring that its selected transporters and disposal facilities are authorized to conduct these activities in accordance with all applicable federal, state and local statutes and regulations.
8. This Approval does not: 1) waive or compromise EPA's enforcement and regulatory authority; 2) release Barbour from compliance with any applicable requirements of federal, state or local law; or 3) release Barbour from liability for, or otherwise resolve any violations of federal, state or local law.

#### **NOTIFICATION AND CERTIFICATION CONDITIONS**

9. This Approval may be revoked if the EPA does not receive written notification from Barbour of its acceptance of the conditions of this Approval within 10 business days of receipt.
  - a. a certification signed by its selected contractor, stating that the contractor(s) has read and understands the Notification, and agrees to abide by the conditions specified in this Approval;
  - b. a contractor work plan prepared and submitted by the selected contractor(s), detailing the procedures that will be employed for cleanup of PCB-contaminated wastes and for monitoring during cleanup activities. This work plan should also include information on waste storage, handling, and disposal for each waste stream type and for equipment decontamination; and,
  - c. a certification signed by the selected analytical laboratory, stating that the laboratory has read and understands the analytical and quality assurance requirements specified in the Notification and in this Approval.

## CLEANUP AND DISPOSAL CONDITIONS

10. The cleanup level for *PCB remediation waste* (e.g., soils) at the Site shall be less than or equal to ( $\leq$ ) 1 part per million (ppm).
  - a. Bulk *PCB remediation waste* (i.e., soil) samples shall be collected on a bulk basis (i.e., mg/Kg) and reported on a dry-weight basis.
    - i) Following excavation of the greater than or equal to ( $\geq$ ) 50 ppm PCB-contaminated soils, sampling shall be conducted as described in the Notification to confirm that all  $\geq$ 50 ppm PCB-contaminated soils have been removed. Composite sampling **may not** be conducted to confirm that the  $\geq$ 50 ppm PCB-contaminated soils have been removed. Bulk *PCB remediation waste* with  $\geq$ 50 ppm shall be disposed of in accordance with § 761.61(a)(5)(i)(B)(2)(iii).
    - ii) Following excavation of the greater than ( $>$ ) 1 ppm but less than ( $<$ ) 50 ppm PCB-contaminated soils, sampling shall be conducted to confirm that the  $\leq$ 1 ppm PCB cleanup standard has been achieved. Bulk *PCB remediation waste* with  $>$  1 ppm but  $<$  50 ppm shall be disposed of in accordance with § 761.61(a)(5)(i)(B)(2)(ii) or § 761.61(a)(5)(i)(B)(2)(iii).
  - b. Initial verification sampling of *porous surfaces* (i.e., concrete footing) shall be performed on a surface area basis using the standard wipe test as specified in 40 CFR § 761.123 (i.e.,  $\mu\text{g}/100\text{ cm}^2$ ). In the event that PCB concentration in any wipe sample is  $\geq 1\text{ }\mu\text{g}/100\text{ cm}^2$ , sampling shall be conducted on a bulk basis (i.e., mg/Kg) in accordance with the EPA Region 1 *Standard Operating Procedure For Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs) Revision 4, May 5, 2011*, to a maximum depth interval of 0.5 inches. In the event PCB concentrations in the concrete footing are  $>$  1 ppm, Barbour shall notify EPA to discuss cleanup requirements.
  - c. Chemical extraction for PCBs shall be conducted using Methods 3500B/3540C of SW-846 for solid matrices and Method 3500B/3510C of SW-846 for aqueous matrices; and, chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another extraction or analytical method(s) is validated according to Subpart Q.
11. All PCB waste (regardless of concentration) generated as a result of the activities described in the Notification, excluding any decontaminated materials, shall be marked in accordance with § 761.40; stored in a manner prescribed in § 761.65; and, disposed of in accordance with 40 CFR § 761.61(a)(5), unless otherwise specified below:
  - a. Decontamination wastes and residues shall be disposed of in accordance with 40 CFR § 761.79(g).

- b. Moveable equipment, tools, and sampling equipment shall be decontaminated in accordance with either 40 CFR § 761.79(b)(3)(i)(A), § 761.79(b)(3)(ii)(A), or § 761.79(c)(2).
- c. PCB-contaminated water generated during decontamination shall be decontaminated in accordance with 40 CFR § 761.79(b)(1) or disposed of under § 761.60.

### **INSPECTION, MODIFICATION AND REVOCATION CONDITIONS**

- 12. Barbour shall allow any authorized representative of the Administrator of the EPA to inspect the Site, to inspect records, and to take samples as may be necessary to determine compliance with the PCB regulations and this Approval. Any refusal by Barbour to allow such an inspection (as authorized by Section 11 of TSCA) shall be grounds for revocation of this Approval.
- 13. Any proposed modification(s) in the plan, specifications, or information in the Notification must be submitted to EPA no less than 14 calendar days prior to the proposed implementation of the change. Such proposed modifications will be subject to the procedures of 40 CFR § 761.61(a)(3)(ii).
- 14. Any departure from the conditions of this Approval without prior, written authorization from the EPA may result in the revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.
- 15. Any misrepresentation or omission of any material fact in the Notification or in any records or reports may result in the EPA's revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.
- 16. Approval for these activities may be revoked, modified or otherwise altered: if EPA finds a violation of the conditions of this Approval or of 40 CFR Part 761, including EPA's PCB Spill Cleanup Policy, or other applicable rules and regulations; or, if EPA finds that these activities present an unreasonable risk to public health or the environment.

### **RECORDKEEPING AND REPORTING CONDITIONS**

- 17. Barbour shall prepare and maintain all records and documents required by 40 CFR Part 761, including but not limited to the records required under Subparts J and K. A written record of the cleanup and the analytical sampling shall be established and maintained by Barbour in one centralized location until such time as EPA authorizes, in writing, an alternative disposition for such records. All records shall be made available for inspection by authorized representatives of EPA.

18. Barbour shall submit a final report to EPA within 60 days of completion of the activities authorized under this Approval. At a minimum, this final report shall include: a short narrative of the cleanup and disposal activities; characterization and confirmation sampling analytical results (as applicable); copies of the accompanying analytical chains of custody; field and laboratory quality control/quality assurance checks; an estimate of the quantity of PCB waste disposed of and the size of the remediated area(s); copies of manifests and/or bills of lading; and copies of certificates of disposal or similar certifications issued by the disposer.
19. Required submittals shall be mailed to:  
  
Kimberly N. Tisa, PCB Coordinator  
United States Environmental Protection Agency  
5 Post Office Square, Suite 100  
Mail Code: OSRR07-2  
Boston, Massachusetts 02109-3912
20. No record, report or communication required under this Approval shall qualify as a self-audit or voluntary disclosure under EPA audit, self disclosure or penalty policies.

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**END OF ATTACHMENT 1**

STANDARD OPERATING PROCEDURE  
FOR SAMPLING POROUS SURFACES  
FOR POLYCHLORINATED BIPHENYLS (PCBs)

The Office of Environmental Measurement and Evaluation  
EPA New England – Region 1  
11 Technology Dr.  
North Chelmsford, MA 01863

Prepared by:   
Dan Granz, Environmental Engineer

5/5/11

Date

Reviewed by:   
Kim Tisa, TSCA PCB Coordinator


5/5/11

Date

Reviewed by:   
Jerry Keefe – EIA Team Leader

05/23/11

Date

Approved by:   
Dan Boudreau, EIA Chemistry Team Leader

5/23/11

Date

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### Attachments:

Example of Custody Seal and Sample Label  
Example of Chain of Custody Form

## **1.0 Scope and Application**

- 1.1 This Standard Operating Procedure (SOP) is suitable for collection of a porous matrix sample for analysis of Polychlorinated Biphenyls (PCBs).
- 1.2 This SOP describes sampling techniques for both hard and soft porous surfaces.
  - 1.2.1 Hard surfaces, and most soft surfaces, can be sampled using an impact hammer drill to generate a uniform, finely ground, powder to be extracted and analyzed for PCBs. This procedure is primarily geared at providing enough sample quantity for two analyses. Hard porous surfaces include concrete, brick, asphalt, cement, sandstone, limestone, unglazed ceramics, and other possible PCB suspected material. This procedure may also be used on other softer porous surfaces, such as wood.
  - 1.2.2 Soft surfaces can be sampled using a chisel or sharp knife to generate a representative sample to be extracted and analyzed for PCBs. Soft porous surfaces include wood, wall plasterboard, low density plastics, rubber, caulking, and other PCB suspected material.
- 1.3 This SOP provides for collection of surface samples (0 – 0.5 inches) and delineation of PCB contamination throughout the core of the porous surface. The procedure can be used to sample the porous surface at distinctly different depth zones.

## **2.0 Method Summary**

A one-inch or other sized diameter carbide drill bit is used in a rotary impact hammer drill to generate a fine powder, or other representative sample, suitable for extraction and analysis of PCBs from porous surfaces. This method also allows the use of chisels or knives for the collection of samples from soft porous surfaces for PCB analysis.

## **3.0 Definitions**

- 3.1 Field/Bottle Blank: A sample container of the same lot as the containers used for the environmental samples. This evaluates PCB contamination introduced from the sample container(s) from a common lot.
- 3.2 Equipment/Rinse/Rinsate Blanks: A sample that is collected by pouring hexane over the sample collection equipment after decontamination and before sample collection. The sample is collected in the appropriate sample container identical to the sample containers. This represents background contamination resulting from the field equipment, sampling procedure, sample container, and shipment.

- 3.3 Field Replicates/Duplicates: Two or more samples collected at the same sampling location. Field replicates should be samples collected side by side. Field replicates represent the precision of the whole method, site heterogeneity, field sampling, and the laboratory analysis.
- 3.4 Field Split Samples: Two or more representative subsamples taken from one environmental sample in the field. Prior to splitting, the environmental sample is homogenized to correct for sample heterogeneity that would adversely impact data comparability. Field split samples are usually analyzed by different laboratories (interlaboratory comparison) or by the same laboratory (intralaboratory comparison). Field splits are used to assess sample handling procedures from field to laboratory and laboratory comparability.
- 3.5 Laboratory Quality Samples: Additional samples that will be collected for the laboratory's quality control program: matrix spike, matrix spike duplicate, laboratory duplicates, etc.
- 3.6 Proficiency Testing (PT)/Performance Evaluation (PE) Sample: A sample, the composition of which is unknown to the laboratory or analyst, provided to the analyst or laboratory to assess the capability to produce results within acceptable criteria. This is optional depending on the data quality objectives. If possible, it is recommended that the PE sample be of similar matrix as the porous surface(s) being sampled.
- 3.7 Porous Surface: Any surface that allows PCBs to penetrate or pass into itself including, but not limited to, paint or coating on metal; corroded metal; fibrous glass or glass wool; unglazed ceramics; ceramics with porous glaze; porous building stone such as sandstone, travertine, limestone, or coral rock; low density plastics such as Styrofoam and low density polyethylene; coated (varnished or painted) or uncoated wood; painted or unpainted concrete or cement; plaster; plasterboard; wallboard; rubber; caulking; fiberboard; chipboard; asphalt; or tar paper.
- 3.8 Shipping Container Temperature Blank: A water sample that is transported to the laboratory to measure the temperature of the samples in the cooler.
- 4.0 **Health and Safety**
- 4.1 Eye, respiratory, and hearing protection are required at all times during sample drilling. A properly fitted respirator is required for hard porous surface sampling. A respirator is recommended whenever there is a risk of inhalation of either particulate or volatilized PCBs during sampling.
- 4.2 All proper personal protection clothing and equipment must be worn.

4.3 When working with potentially hazardous materials or situations, follow EPA, OSHA, and specific health or safety procedures.

4.4 Care must be exercised when using an electrical drill and sharp cutting objects.

## 5.0 Interferences and Potential Problems

5.1 This sampling technique produces a finely ground uniform powder, which minimizes the physical matrix effects from variations in the sample consistency (i.e., particle size, uniformity, homogeneity, and surface condition). Matrix spike analysis of a sample is highly recommended to monitor for any matrix related interferences.

5.2 Nitrile gloves are recommended. Latex gloves must not be used due to possible phthalate contamination.

5.3 Interferences may result from using contaminated equipment, solvents, reagents, sample containers, or sampling in a disturbed area. The drill bit must be decontaminated between samples. (see Section 11.0.)

5.4 Cross contamination problems can be eliminated or minimized through the use of dedicated sampling equipment.

## 6.0 Personnel Qualifications

6.1 All field samplers working at hazardous materials/waste sites are required to take a 40 hour health and safety training course prior to engaging in any field activities. Subsequently, an 8 hour refresher health and safety course is required annually.

6.2 The field sampler should be trained by an experienced sampler before initiating this procedure.

6.3 All personnel shall be responsible for complying with all quality assurance/quality control requirements that pertain to their organizational/technical function.

## 7.0 Equipment and Supplies

7.1 This list varies with the matrix and if depth profiling is required

- Rotary impact hammer variable speed drill
- 1-inch or other suitable (1/2, 3/4, etc.) diameter carbide tip drill bits
- Steel chisel or sharp cutting knife, and hammer
- Brush and cloths to clean area
- Stainless steel scoopulas

Aluminum foil to collect the powder sample  
1 quart Cubitainer with the top cut out to collect the powder sample  
Aluminum weighing pans to collect the powder sample  
Cleaned glass container (2 oz or 40 mL) with Teflon lined cap  
Decontamination supplies: hexane, two small buckets, a scrub brush, detergent, deionized water, hexane squirt bottle, and paper towels  
Dedicated vacuum cleaner with a disposable filter or a vacuum pump with a dust filter  
Polyethylene tubing and Pasteur pipettes  
Sample tags/labels, custody seals, and Chain-of-Custody form

## 8.0 Sampling Design

8.1 A sufficient number of samples must be collected to meet the data quality objectives of the project. If the source of the PCB contamination is regulated under the federal TSCA PCB Regulations at 40 CFR Part 761, the sampler should insure that the sampling design is sufficient to meet any investigation or verification sampling requirements. At a minimum, the following is recommended:

- 8.1.1 Suspected stained area (s) should be sampled.
- 8.1.2 At each separate location, collect at least 3 samples of each type of porous surface, regardless of the amount of each type of porous surface present.
- 8.1.3 In areas where PCB equipment was used or where PCBs were stored, samples should be collected at a frequency of 1 sample/100 square feet (ft<sup>2</sup>).

## 9.0 Sample Collection

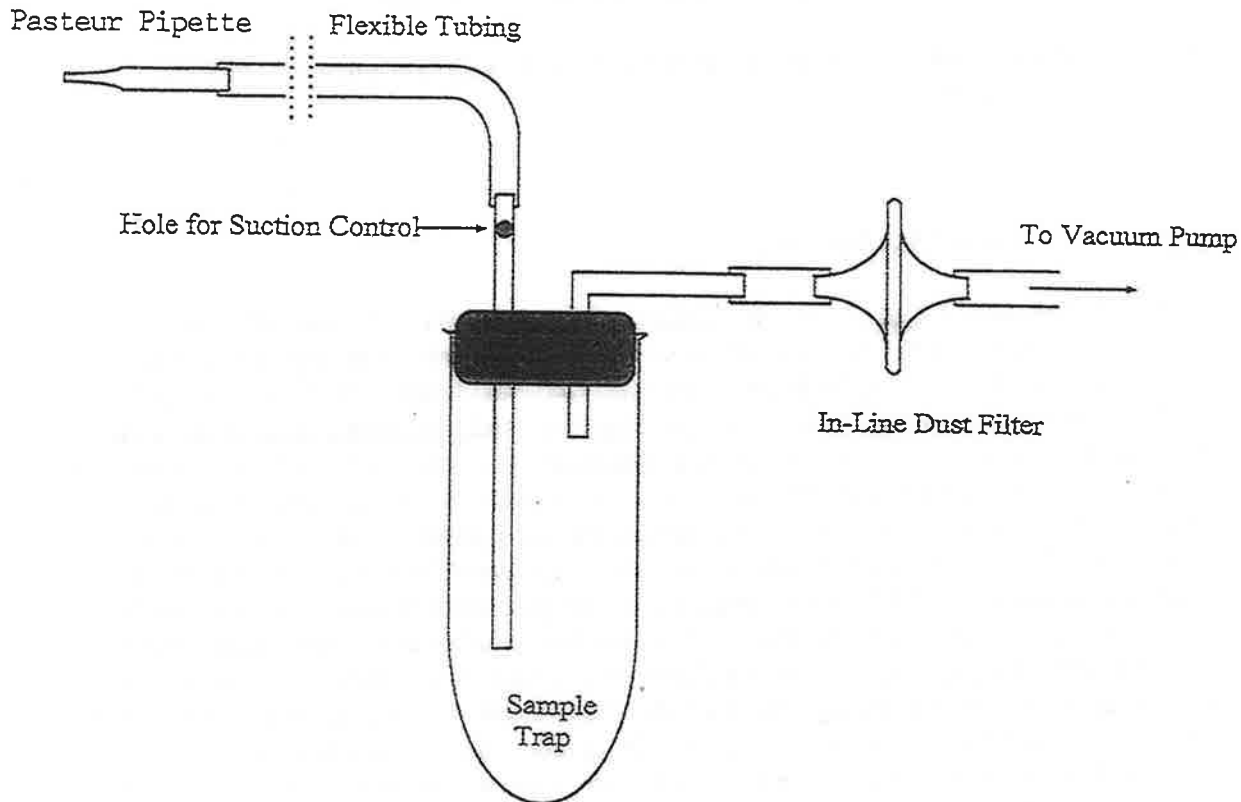
### 9.1 Hard Porous Surfaces

- 9.1.1 Lock a 1-inch or another size diameter carbide drill bit into the impact hammer drill and plug the drill into an appropriate power source. For easy identification, sample locations may be pre-marked using a marker or paint. (Note: the actual drilling point must not be marked.) Remove any debris with a clean brush or cloth prior to drilling. All sampling decisions of this nature should be noted in the sampling logbook.
- 9.1.2 Use a Cubitainer with the top cut off or aluminum foil to contain the powdered sample. Begin drilling in the designated location. Apply steady even pressure and let the drill do the work. Applying too much pressure will generate excessive heat and dull the drill bit prematurely. The drill will provide a finely ground powder that can be easily collected.

- 9.1.3 Samples should be collected at ½-inch depth intervals. Thus, the initial surface sample should be collected from 0 – 0.5 inches. A ½-inch deep hole generates about 10 grams (20 mL) of powder. Multiple holes located closely adjacent to each other, may be needed to generate sufficient sample volumes for a PCB determination. It is strongly recommended that the analytical laboratory be consulted on the minimum sample size needed for PCB extraction and analysis.
- 9.1.4 **Wall and Ceiling Sampling:** A team of two samplers will be required for wall and ceiling sampling. The second person will hold a clean catch surface (e.g. an aluminum pan) below the drill to collect the falling powder. Alternatively, use the chuck-end of the drill bit and punch a hole through the center of the collection pan. The drill bit is then mounted through the pan and into the drill. For ceilings, the drill may be held at an angle to collect the powder. Thus the driller can be drilling at an angle while the assistant steadies the pan to catch the falling powder. As a precaution, it may be advantageous to tape a piece of plastic around the drill, just below the chuck, to avoid dust contaminating the body of the drill and entering the drill's cooling vents. Caution must be taken to prevent obstruction of the drill's cooling vents.
- 9.2 **Soft Porous Surfaces**
- 9.2.1 The procedure for the hard porous surface may be used for certain soft porous surfaces, such as wood.
- 9.2.2 Samples should be collected at no more than ½-inch depth intervals using a metal chisel or sharp cutting knife. Thus, the initial surface sample should be collected from 0 – 0.5 inches. It is important to collect at least 10 grams for analysis.
- 9.2.3 For soft porous surfaces, such as caulking and rubber, a representative sample can be collected using a metal chisel or sharp cutting knife.
- 9.3 **Multiple Depth Sampling**
- 9.3.1 Multiple Depth Sampling may not be applicable to certain porous surfaces, such as caulking.
- 9.3.2 Collect the surface sample as outlined in Section 9.1 or 9.2.
- 9.3.3 Use the vacuum pump or cleaner to clean out the hole.
- 9.3.4 To collect multiple depths there are two options.

- 9.3.4.1 Option one: drill sequentially ½-inch increments with the 1 inch drill.
  - 9.3.4.2 Option two: drill with the 1 inch bit and either make the hole larger or use a smaller bit to take the next ½- inch sample.
  - 9.3.5 A stainless steel scoopula will make it easier to collect the sample from the bottom of the hole.
- 9.4 Vacuum Trap Design and Clean-out

The trap presented in Figure 1 is a convenient and thorough way for collecting and removing concrete powder from drilled holes. The trap system is designed to allow for control of the suction from the vacuum pump and easy trap clean-out between samples. Note, by placing a hole in the inlet tube (see Figure 1), a finger on the hand holding the trap can be used to control the suction at the sampling tip. Thus, when this hole is left completely open, there will be no suction, and the sampler can have complete control over where and what to sample. To change-out between samples the following steps should be taken: 1) the Pasteur pipette and piece of polyethylene tubing at the sample inlet should be replaced with new materials, 2) the portion of the rubber stopper and glass tubing that was in the trap should be wiped down with a clean damp paper towel (wetted with deionized water) and then dried with a fresh paper towel, 3) a clean pipe cleaner should be drawn through the glass inlet tube to remove any concrete dust present, and 4) the glass tube or flask used to collect the sample should be swapped out with a clean decontaminated sample trap. Having several clean tubes or flasks on hand will facilitate change-out between samples.

**Figure 1**

Note: the holes should be vacuumed thoroughly to minimize any cross-contamination between sample depths and the bits should be decontaminated between samples. (See Section 11.0)

#### 10.0 Sample Handling, Preservation, and Storage

- 10.1 Samples must be collected in glass containers for PCB analyses. In general, a 2-ounce sample container with a Teflon-lined cap (wide-mouth jars are preferred) will hold sufficient mass for most analyses. A 2-ounce jar can hold roughly 90 grams of sample.
- 10.2 Samples are to be shipped refrigerated and maintained at  $\leq 6^{\circ}\text{C}$  until the time of extraction and analysis.
- 10.3 The suggested holding time for PCB samples is 14 days to extraction.

## 11.0 Decontamination

- 11.1 Assemble two decontamination buckets. The first bucket contains a detergent and potable water solution, and the second bucket is for rinsate. Place all used drill bits, hose for the vacuum cleaner, and utensils in the detergent and water bucket. Scrub each piece thoroughly using the scrub brush. Note, the powder does cling to the metal surfaces, so care should be taken during this step, especially with the twists and curves of the drill bits. Next, rinse each piece with water and hexane. Place the rinsed pieces on clean paper towels and individually dry and inspect each piece. Note: all pieces should be dry prior to reuse.
- 11.2 Lightly contaminated drill bits and utensils may be wiped with a hexane soaked cloth and hexane rinsed for decontamination.

## 12.0 Data and Record Management

- 12.1 All data and information collection should follow a Field Data Management SOP or Quality Assurance Project Plan (QAPP).
- 12.2 Follow the chain of custody procedures to release the samples to the laboratory. A copy is kept with the sampling records.
- 12.3 The field data is stored for at least 3 years.

## 13.0 Quality Control and Quality Assurance

- 13.1 Representative samples are required. The sampler will evaluate the site specific conditions to assure the sample will be representative.
- 13.2 All sampling equipment must be decontaminated prior to use and between each discrete sample.
- 13.3 All field Quality Control (QC) sample requirements in a Sample and Analysis Plan (SAP) or QAPP must be followed. The SAP or QAPP may involve field blanks, equipment blanks, field duplicates and/or the collection of extra samples for the laboratory's quality control program.
- 13.4 Field duplicates should be collected at a minimum frequency of 1 per 20 samples or 1 per non-related porous matrix, whichever is greater.

#### 14.0 Waste Management and Pollution Prevention

- 14.1 During field sampling events there may be PCB and/or hazardous waste produced from the sample collection. The waste must be handled and disposed of in accordance with federal, state, and local regulations. The dust filter, and tubing if a vacuum pump is used, is disposed after each site investigation. This waste will be treated as PCB waste if the samples are positive for PCBs. It may be possible to manage or dispose of the waste produced at the site where the work was performed. If the site does not meet regulatory requirements for these types of activities, the waste must be transported to a facility permitted to manage and/or dispose of the waste.


#### 15.0 References

1. Guidance for the Preparation of Standard Operating Procedures for Quality-Related Operations, QA/G-6, EPA/600/R-96/027, November 1995.
2. 40 CFR Part 761 – Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution In Commerce, and Use Prohibitions
3. Sample Container and Holding Time: RCRA SW 846, Chapter 4, Table 4.1, Revision 4, February, 2007.

# Example of Sample Label and Custody Seal

<p><b>U.S. ENVIRONMENTAL PROTECTION AGENCY - REGION 1 BOSTON, MASS.</b></p> <p>NAME OF UNIT/STREET ADDRESS</p> <p>ENVIRONMENTAL SERVICES DIVISION 60 WESTVIEW STREET LEXINGTON, MASSACHUSETTS 02173</p>		DATE: YR/MO/DAY	
		TIME	
<p><b>SOURCE OF SAMPLE</b></p>	STATION NO.		SAMPLE NO.
			SUB NO.
			PRESERVATIVE
	AMOUNT		
	ANALYSIS		
<p><b>SAMPLING CREW (FIRST, INITIAL, LAST NAME)</b></p>			

 <p>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY OFFICIAL SAMPLE SEAL</p>	SAMPLE NO.	DATE	<p>SEAL BROKEN BY</p> <p>DATE</p>
	SIGNATURE		
	PRINT NAME AND TITLE (Inspector, Analyst or Technician)		

EPA FORM 7600-2 (11-76)

